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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/688,273	10/17/2003	Kimmo Mylly	915-005.074	3787

4955 7590 06/12/2007

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EXAMINER	
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ART UNIT	PAPER NUMBER
2181	

MAIL DATE	DELIVERY MODE
06/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/688,273	MYLLY ET AL.	
	Examiner	Art Unit	
	Chun-Kuan (Mike) Lee	2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) *20-31,33 and 35* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19,32,34,36 and 37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/26/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

CONTINUED EXAMINATION UNDER 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/19/2007 has been entered.

RESPONSE TO ARGUMENTS

2. Applicant's arguments filed 04/19/2007 have been fully considered but they are not persuasive. Currently claims 20-31, 33 and 35 are withdrawn and claims 1-19, 32, 34, 36 and 37 are pending for examination.

3. In response to applicant's arguments, on page 10, 3rd to last paragraph, regarding the amended independent claim 1 rejected under 35 U.S.C. 103(a) that the combination of references does not teach the computer providing means for instructing the card to change the state because the state of the card is changed by the physical action of plugging and unplugging the connector; applicant's arguments have fully been considered, but are not found to be persuasive.

One of the embodiments, Oh-Yang does teach that the computer system connected to the PC card directly giving command to make the PC card get into sleep state or resume normal state (col. 5, l. 66 to col. 6, l. 3).

4. In response to applicant's arguments, on page 11, 3rd paragraph, regarding the amended independent claim 1 rejected under 35 U.S.C. 103(a) that Khouli does not teach/suggest the change of the mode of the card is indicated by the changing the logical stated of a signal line of the interface, and the indication is transmitted to the computer and processed in the computer; applicant's arguments have fully been considered, but are not found to be persuasive.

Khouli teaches a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted to an active mode (e.g. wake up mode) from a non-active mode (e.g. stand by mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device to wake up the computer (Fig. 5 and col. 6, ll. 1-24), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

5. As applicant has applied similar arguments presented above in independent claim 1 towards the independent claims 7, 13, 16-17, 19, 32, 34 and 36-37, the examiner also applies similar arguments toward the independent claims 7, 13, 16-17, 19, 32, 34 and 36-37 accordingly.

I. INFORMATION CONCERNING OATH/DECLARATION

Oath/Declaration

6. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63.**

II. INFORMATION CONCERNING DRAWINGS

Drawings

7. The applicant's drawings submitted are acceptable for examination purposes.

III. ACKNOWLEDGEMENT OF REFERENCES CITED BY APPLICANT

8. As required by **M.P.E.P. 609(C)**, the applicant's submissions of the Information Disclosure Statement dated February 26, 2007 is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending. As required by **M.P.E.P 609 C(2)**, a copy of the PTOL-1449 initialed and dated by the examiner is attached to the instant office action.

IV. REJECTIONS BASED ON PRIOR ART

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-3, 7-9, 11, 13-17, 19, 32, 34 and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh-Yang et al. (US Patent 6,351,820) in view of Khouli et al. (US Patent 6,308,278).

10. As per claim 1, Oh-Yang teaches a method for changing a mode of a card (Fig. 1, ref. 10), the card being connected to an interface of a terminal (Fig. 1, ref. 80), which card comprises at least one dormant mode (e.g. sleep state) and a normal mode (e.g. normal state) (col. 3, ll. 54-59), said method comprising:

transmitting to the card a command for changing the mode of the card from said at least one dormant mode to the normal mode (col. 2, ll. 26-30 and col. 5, l. 66 to col. 6, l. 3), and

after receiving the command, the card shifts to normal operation (col. 2, ll. 26-30).

Oh-Yang does not teach the method comprising:

the card receiving said command and indicating the change of the mode by changing logical state of a signal line of the interface, and

transmitting the change of logical state of the signal line via the interface to the terminal, wherein the change of logical state of the signal line, received from the card and relating to the mode change, is processed in the terminal.

Khouli teaches a system and a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted to an active mode (e.g. wake up mode) from a non-active mode (e.g. stand by mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device to wake up the computer (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's SCI signal into Oh-Yang's card. The resulting combination of the references further teaches the method comprising:

after the card receiving the command to change mode, and the card responded with the SCI to be transferred on the signal line interconnecting the computer (e.g. terminal), wherein the transferring of the SCI would obvious require the changing of logical state on the signal line, and

transferring the SCI signal through the signal line via the interface to the computer (e.g. terminal), and as the computer receives and processes the SCI, the computer wakes up.

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claim 1.

11. As per claim 2, Oh-Yang and Khouli teach all the limitations of claim 1 as discussed above, where Khouli further teaches the method comprising wherein the interface is provided with one or more signal lines, wherein one of said signal lines of the interface is used for transferring said change of logical stated (e.g. as the change of

logical stated is resulted in the transferring of the SCI signal) to the terminal (Khouli, Fig. 2, ref. 236, 240).

12. As per claim 3, Oh-Yang and Khouli teach all the limitations of claim 2 as discussed above, where Khouli further teaches the method comprising wherein a state of the signal line used for the transfer of said change of logical state (e.g. SCI signal) is set in a first logical state after the command to set the normal mode has been received in the card, and that the state of the signal line used for the transfer of said change of logical state is set in a second logical state after the normal mode is in use in the card (Khouli, Fig. 5 and col. 6, ll. 1-24), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, therefore before the transferring of the SCI signal by the card, the signal line is in the first logical state, and after the transferring of the SCI by the card, the signal line is in the different second logical state.

13. As per claim 7, Oh-Yang teaches a system comprising a terminal (Fig. 1, ref. 80) and a card (Fig. 1, ref. 10) which can be connected to an interface of the terminal (connection between ref. 18 and ref. 80 on Fig. 1) and which card comprises at least one dormant mode (e.g. sleep state) and a normal mode (e.g. normal state) (col. 3, ll. 54-59), wherein said system comprises:

means for transferring a command to the card, for changing the mode of the card from said at least one dormant mode to the normal mode (col. 2, ll. 26-30 and col. 5, l. 66 to col. 6, l. 3), and

after receiving the command, the card shifts to normal operation (col. 2, ll. 26-30).

Oh-Yang does not expressly teach the system comprising:

means for changing logical state of a signal line of the interface indicating the change of the mode and for transferring said change of logical state via the interface from the card to the terminal, and

wherein the terminal comprises: means for processing the change of logical state of the signal line which has come from the card and which relates to the mode change.

Khouli teaches a system and a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted from a non-active mode (e.g. stand by mode) to an active mode (e.g. wake up mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device (Fig. 2, ref. 214), and in response to the received SCI signal by the power management device, the computer wakes up (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's SCI signaling and the power management device into Oh-Yang's system. The resulting combination of the references teaches the system further comprising:

the card generating and transferring the SCI signal via the signal line to the computer (e.g. terminal) to indicated the change of mode in the card, wherein the SCI signal would obviously require the change of logical state in the signal line, and

wherein the computer processes the received SCI signal via the signal line from the card and the wakes up

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claim 7.

14. Claims 8-9 repeat the limitations of claims 2-3 and are therefore rejected accordingly.

15. As per claim 11, Oh-Yang and Khouli teach all the limitation of claim 8 as discussed above, where both further teach the system comprising wherein the interface comprises at least one card connection for connecting the card to the terminal (Oh-Yang, connection between ref. 18 and ref. 80 on Fig. 1), and

said at least one card connection comprises at least the following lines:

one data line (Khouli, Fig. 3, ref. 310, 320) for the transfer of data between the terminal and the card,

one command line for the transmission of commands from the terminal to the card and for the transmission of responses from the card to the terminal (Oh-Yang, col. 5, l. 66 to col. 6, l. 3 and Khouli, Fig. 3, ref. 236), as the command is transferred from the computer to the PC card, there must be the command line utilized for the transferring of the commands, and

one clock line (Khouli, Fig. 3, ref. 315, 325) for the transmission of a clock signal from the terminal to the card.

16. As per claims 13, 16 and 36, Oh-Yang teach a method for use by a (memory) card (Fig. 1, ref. 10) which is arranged to be connected to an interface (connection between ref. 18 and ref. 80 on Fig. 1) of a terminal (Fig. 1, ref. 80) and

which card comprises at least one dormant mode (e.g. sleep state) and a normal mode (e.g. normal state) (col. 3, ll. 54-59) and means for processing a command (col. 2, ll. 26-30 and col. 5, l. 66 to col. 6, l. 3),

said command coming via the interface of the terminal, for changing the mode of the card from said at least one dormant mode to the normal mode (col. 5, l. 66 to col. 6, l. 3), and

after receiving the command, the card shifts to normal operation (col. 2, ll. 26-30).

Oh-Yang does not expressly teach the card comprising means for generating a change of logical stated of a signal line of the interface relating to the change in the mode of the card.

Khouli teaches a system and a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted from a non-active mode (e.g. stand by mode) to an active mode (e.g. wake up mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device (Fig. 2, ref. 214), and in response to the received SCI signal by the power management device, the computer wakes up (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's SCI signaling into Oh-Yang's card. The resulting combination of the references teaches the card further comprising:

when the card shifts from the sleep state to the normal state, the card generates and transfers the SCI signal via the signal line, wherein the SCI signal would obviously require the change of logical state in the signal line.

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claims 13, 16 and 36.

17. As per claims 14-15, Oh-Yang and Khouli teach all the limitations of claim 13 as discussed above, where both further teach the card comprising:

means for transferring the change of logical state via the interface of the terminal to the terminal (Khouli, Fig. 2, ref. 236); and

wherein the interface is provided with one or more signal lines (Khouli, Fig. 2, ref. 236),

wherein the card comprises a bus connection block (Oh-Yang, Fig. 1, ref. 18) for transferring said change of logical stated to the terminal on one of said signal lines of the interface (Khouli, col. 4, ll. 7-9 and col. 6, ll. 12-14).

18. As per claim 17, Oh-Yang teaches a terminal provided with an interface (connection between ref. 18 and ref. 80 on Fig. 1) for connecting a card (Fig. 1, ref. 10) to the terminal (Fig. 1, ref. 80),

which card comprises at least one dormant mode (e.g. sleep state) and a normal mode (e.g. normal state) (col. 3, ll. 54-59), and

which terminal comprises an interface for transferring a command to the card, for changing the mode of the card from said at least one dormant mode to the normal mode (col. 2, ll. 26-30 and col. 5, l. 66 to col. 6, l. 3), and

after receiving the command, the card shifts to normal operation (col. 2, ll. 26-30).

Oh-Yang does not expressly teach the terminal comprising:

wherein the terminal comprises means for receiving a change of logical stated of a signal line, relating to the mode change and generated by the card, via the interface from the card to the terminal, and

that the terminal comprises a processor for processing the change of logical stated coming from the card and relating to the mode change.

Khouli teaches a system and a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted from a non-active mode (e.g. stand by mode) to an active mode (e.g. wake up mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device (Fig. 2, ref. 214), and in response to the received SCI signal by the power management device, the computer wakes up (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to

send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's SCI signaling and the power management device into Oh-Yang's system. The resulting combination of the references teaches the system further comprising:

the terminal comprising the power management device;

when the card shifts from the sleep state to the normal state, the card generates the SCI signal, associated to the change in the state of operation, to be transferred to the power management device, wherein the SCI signal would obviously require the change of logical state in the signal line; and

when the power management device receives and processes the SCI interrupt, the computer will then wake up.

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claim 17.

19. As per claim 19, Oh-Yang teaches a mobile station (e.g. notebook personal computer, col.1, ll. 48-52) provided with an interface (connection between ref. 18 and

ref. 80 on Fig. 1) for connecting a card (Fig. 1, ref. 10) to the mobile station (Fig. 1, ref. 80),

which card comprises at least one dormant mode (e.g. sleep state) and a normal mode (e.g. normal state) (col. 3, ll. 54-59), and

which mobile station comprises an interface for transferring a command to the card, for changing the mode of the card from said at least one dormant mode to the normal mode (col. 2, ll. 26-30 and col. 5, l. 66 to col. 6, l. 3), and

after receiving the command, the card shifts to normal operation (col. 2, ll. 26-30).

Oh-Yang does not expressly teach the mobile station comprising:

wherein the mobile station comprises means for receiving a change of logical state of a signal line, relating to the mode change and generated by the card, via the interface from the card to the mobile station, and

that the mobile station comprises a processor for processing the change of logical state coming from the card and relating to the mode change.

Khouli teaches a system and a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted from a non-active mode (e.g. standby mode) to an active mode (e.g. wake up mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device (Fig. 2, ref. 214), and in response to the received SCI signal by the power management

device, the computer wakes up (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's SCI signaling and the power management device into Oh-Yang's system. The resulting combination of the references teaches the system further comprising:

the mobile station comprising the power management device;

when the card shifts from the sleep state to the normal state, the card generates the SCI signal, associated to the change in the state of operation, to be transferred to the power management device, wherein the SCI signal would obviously require the change of logical state in the signal line; and

when the power management device receives and processes the SCI signal, the computer will then wake up.

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claim 19.

20. As per claims 32 and 34, Oh-Yang teaches a mode shifting method for a mobile terminal (e.g. notebook personal computer; col. 1, ll. 48-52) having a card interface (Fig. 1, ref. 80) for interfacing a card (Fig. 1, ref. 10) thereto for use after a command has been sent from the terminal to the card to return from a dormant mode (e.g. sleep state) to a normal mode (e.g. normal state) (col. 2, ll. 26-30 and col. 5, l. 66 to col. 6, l. 3), comprising:

the terminal starting to use the card via said interface in a normal way after said card has shifted to the normal mode (col. 2, ll. 26-30).

Oh-Yang does not expressly teach the mode comprising:

the terminal receiving a signal from the card informing the terminal directly in response to said command that the card has shifted to the normal mode, and

the terminal with a processor starting to use the card via said interface in a normal way in response to said card informing the terminal that the card has shifted to the normal mode,

wherein the signal is a change of logical state of a signal line of the interface.

Khouli teaches a system and a method comprising:

a host processor (Fig. 2, ref. 204);

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted from a non-active mode (e.g. a standby mode) to an active mode (e.g. wake up mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device (Fig. 2, ref. 214), and in response to the received SCI signal by the power management device, the computer wakes up (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's host processor, SCI signaling and the power

management device into Oh-Yang's system. The resulting combination of the references teaches the system further comprising:

the terminal including the host processor;

when the card shifts from the sleep state to the normal state, the card generates the SCI signal, associated to the change in the state of operation, to be transferred to the terminal's power management device, wherein the SCI signal would obviously require the change of logical state in the signal line; and

when the power management device receives and processes the SCI interrupt (e.g. change of logical state), the computer will then wake up and start to use the card in the normal way.

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claims 32 and 34.

21. As per claim 37, Oh-Yang teaches a card (Fig. 1, ref. 10) for interfacing to a mobile terminal (e.g. notebook personal computer; col. 1, ll. 48-52) via a card interface in said terminal (connection between ref. 18 and ref. 80 on Fig. 1), comprising:

a control device (Fig. 1, ref. 12), responsive to a command received over a connection from said terminal to shift from a dormant mode (e.g. sleep state) to a normal mode (e.g. normal state) (col. 4, ll. 27-34 and col. 5, l. 66 to col. 6, l. 3),

for storing said command in a buffer (Fig. 3, ref. 16) for interpreting said command as a command to shift to said normal mode from said dormant mode (col. 3, ll. 25-30),

for setting said card to said normal mode (col. 4, ll. 27-34).

Oh-Yang does not expressly teach the card comprising wherein the control device sending a change of logical state of a signal lime of the interface via said connection to said terminal indicative of said shift.

Khouli teaches a system and a method comprising:

a plurality of peripheral devices including a local are network (LAN) controller (Fig. 2, ref. 237); and

when the LAN controller is shifted from a non-active mode (e.g. standby mode) to an active mode (e.g. wake up mode), a wake control signal, such as a system control interrupt (SCI) signal, is generated and transferred to the power management device (Fig. 2, ref. 214), and in response to the received SCI signal by the power management device, the computer wakes up (Fig. 5 and col. 6, ll. 1-25), wherein the transferring of the SCI signal would obviously require the change of logical stated in the signal line, because if there is no changes in the logical state the power management device would not detect any signal to process.

Oh-Yang and Khouli are analogous art because not only are they in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer, but also they are reasonably pertinent to the particular problem with which the applicant was concerned, which is direct communication between the computer and the peripheral regarding the mode change without need to send recurrent inquiries, therefore reducing the delay for the computer to utilize the peripheral device in normal mode.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Khouli's SCI signaling into Oh-Yang's control device. The resulting combination of the references teaches the system further comprising:

the control device sending the SCI signal, associated to the change in the state of operation, to the mobile terminal when the card shifts from the sleep state to the normal state, wherein the SCI signal would obviously require the change of logical state in the signal line.

The suggestion/motivation for doing so would have been for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption (Khouli, col. 2, ll. 1-11 and col. 2, ll. 28-35).

Therefore, it would have been obvious to combine Khouli with Oh-Yang for the benefit of enabling a robust power management system, wherein the whole computer system can reduce power consumption to obtain the invention as specified in claim 37.

22. Claims 4, 10 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh-Yang et al. (US Patent 6,351,820) in view of Khouli et al. (US Patent 6,308,278) as applied to claims 2, 9 and 17 above, and further in view of Kihara et al. (US Patent 6,212,097).

Oh-Yang and Khouli teach all the limitations of claims 2, 8 and 17 as discussed above, where both further teach the system and the method comprising:

wherein the interface is provided with one or more signal lines, that at least one of said signal lines is a data line (Khouli, Fig. 3, ref. 310, 320); and

wherein the terminal comprises a coupling block for transferring the interrupt request from to said interrupt processor (Oh-Yang, Fig. 1, ref. 80), wherein the coupling block is the interface on the computer side to be coupled to the interface on the PC card (Fig. 1, ref. 18).

Oh-Yang and Khouli does not teach the method and the system comprising wherein at least one of said signal lines is a data line, and that said interrupt request is transmitted on said data line.

Kihara teaches a system and method comprising a pluralities of signal lines connected to the card, wherein one of said signal lines is a data line and that both interrupt request and data can be send over said data line (Fig. 3; col. 7, ll. 55-67 and col. 8, ll. 1-10).

Kihara is analogous art because Kihara is reasonably pertinent to the particular problem with which the applicant was concerned, which is to transfer the interrupt signal utilizing the data line.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Kihara's serial transfer of both interrupt request and data over the single line into Oh-Yang and Khouli's interconnecting system and method.

The suggestion/motivation for doing so would have been for the benefit of increasing the capability of the signal line, thus reducing the number of signal lines needed for a plurality of different signals send between the card and the terminal, for example, other than sending interrupt request and data, said serial communication data line can also include command signals (Kihara, col. 8, ll. 2-3).

Therefore, it would have been obvious to combine Kihara with Oh-Yang and Khouli for the benefit of increasing the capability of the signal line, thus reducing the number of signal lines needed for a plurality of different signals send between the card and the terminal, for example, other than sending interrupt request and data, said serial communication data line can also include command signals to obtain the invention as specified in claims 4, 10 and 18.

23. Claims 5-6 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh-Yang et al. (US Patent 6,351,820) in view of Khouli et al. (US Patent 6,308,278) as applied to claims 1 and 7 above, and further in view of Lindskog et al. (US Pub.: 2002/0132603).

Oh-Yang and Khouli teach all the limitations of claims 1 and 7 as discussed above, but Oh-Yang and Khouli does not teach the method and the system comprising:

wherein after receiving said command to set the normal mode, an acknowledgement about the reception of the command is transmitted from the card to the terminal; and

wherein said terminal used is a wireless terminal provided with mobile station functions.

Lindskog teaches a system and a method comprising:

a wireless network interface card (NIC) coupled to a PC forming a mobile terminal (Fig. 2 and [0003]-[0004]); and

the NIC receiving a request from the PC to transit from a dormant state (i.e. D3) to an active state (i.e. D0) ([0079]); and

an acknowledgement is transferred to the PC in response to the request by the PC to transit from a dormant state (i.e. D3) to an active state (i.e. D0) (claim 17 on page 6).

Lindskog is analogous art because Lindskog is in the field of applicant's endeavor, which is associated the mode change of a peripheral device connected to a computer.

It would have been obvious to one of ordinary skill in this art, at the time of invention was made to include Lindskog's mobile terminal and acknowledgement into Oh-Yang and Khouli's interconnecting system and method. The resulting combination of the references teaches the system and the method further comprising:

the card's the acknowledgement associated with the terminal's request to shift to normal state is transferred is transferred to the terminal; and

wherein the card coupled the terminal to form the wireless mobile terminal.

The suggestion/motivation for doing so would have been for the benefit of providing a power saving concept for the PC in a wireless local area network (WLAN) thus improving the battery lifetime of the PC (Lindskog, [0084]).

Therefore, it would have been obvious to combine Lindskog with Oh-Yang and Khouli for the benefit of providing a power saving concept for the PC in a wireless local area network (WLAN) thus improving the battery lifetime of the PC to obtain the invention as specified in claims 5-6 and 12.

V. CLOSING COMMENTS

Conclusion

a. STATUS OF CLAIMS IN THE APPLICATION

The following is a summary of the treatment and status of all claims in the application as recommended by **M.P.E.P. 707.07(i)**:

a(1) CLAIMS REJECTED IN THE APPLICATION

Per the instant office action, claims 1-19, 32, 34, 36 and 37 have received a first action on the merits and are subject of a first action non-final.

b. DIRECTION OF FUTURE CORRESPONDENCES

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chun-Kuan (Mike) Lee whose telephone number is (571) 272-0671. The examiner can normally be reached on 8AM to 5PM.

IMPORTANT NOTE

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

June 01, 2007

Chun-Kuan (Mike) Lee
Examiner
Art Unit 2181

DONALD SPARKS
SUPERVISORY PATENT EXAMINER